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Assessment of Community Awareness of Breast Cancer Screening Among Asymptomatic Adults as a Strategy for Risk Reduction and Early Detection

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ABSTRACT
Breast cancer remains the most common cancer worldwide, with about 2.26 million new cases and 685,000 deaths reported globally. This study aimed to assess community awareness of symptom-free breast cancer screening as a strategy for reducing disease risk and promoting early treatment. A community-based cross-sectional survey was carried out using a Google Form questionnaire between September and December 2025 in some states in Nigeria. A total of 156 adults (men and women aged 18 years and above) were conveniently recruited. Data were analysed using SPSS version 23, and associations were examined using the Chi-square test. Females made up 79% of respondents, 51% were aged 30–39 years, and 85% had tertiary-level education. Most women (97%) had heard of breast cancer, 95% reported no family history of the disease, and 69% lacked knowledge of its risk factors. In addition, 59% indicated that financial cost prevented them from undergoing screening, while 85% identified early detection as the most effective preventive approach. Despite high awareness of breast cancer, important gaps in knowledge of risk factors and barriers to screening remain. Targeted health education and improved access to affordable screening services are needed to promote early detection and increase breast cancer screening uptake.

Keywords: Breast Cancer, Prevention practices, Nigeria, Community Members, Level of Awareness

INTRODUCTION

According to GLOBOCAN 2020 data, breast cancer is currently one of the most common malignancies diagnosed and the fifth leading cause of cancer-related deaths, with an anticipated 2.3 million new cases globally (Sung *et al*., 2021). Globally, breast cancer was responsible for 684,996 deaths [95% UI, 675,493–694,633] at an age-adjusted rate of 13.6/100,000. Although incidence rates were the highest in developed regions, the countries in Asia and Africa shared 63% of total deaths in 2020 (Ferlay *et al*., 2020).

The disease has a complicated etiology that calls for a better comprehension of its molecular foundations and risk factors, even in light of improvements in early identification and treatment approaches. Breast cancer carcinogenesis is influenced by a wide range of factors, and research shows how genetic, environmental, and lifestyle factors interact intricately to influence the process (Conner *et al*., 2024).

Breast cancer affects both industrialized and developing nations, and its prevalence cuts across national borders (Bray *et al*., 2004). The prognosis and survival rates of breast cancer are better in developed countries because the disease is identified and treated sooner (Da Costa Vieira *et al*., 2007). Most individuals with advanced or metastatic breast cancer have a poor prognosis and are found in low-resource countries (Francies *et al*., 2020).

Breast cancer is caused by a variety of risk factors, including aging, genetic mutations, early menstruation, delayed or non-existent pregnancies, menopause after age 55, inactivity, postmenopausal weight gain or obesity, dense breast tissue, use of combination hormone therapy, oral contraceptives, family history of breast cancer, alcohol use, prior radiation therapy, and personal or family history of breast cancer or certain noncancerous breast conditions (Gilani *et al*., 2004; Feng *et al*., 2018).

Additionally, breast cancer can have a substantial impact on quality of life and the cost-effectiveness of healthcare services (Feng *et al*., 2018). In Nigeria, despite efforts to tackle breast cancer through early detection, prevention, treatment, and palliative care initiatives, challenges arise from the absence of cancer patient registries, national cancer care strategies, and comprehensive treatment plans. Moreover, the lack of systematic cancer surveillance in the country exacerbates the limitations of its resource-constrained healthcare system, leading to many women not being able to identify symptoms or appreciate the significance of early detection. Therefore, enhancing patient awareness through research on self-examination can improve early diagnosis, treatment, and survival rates (Moridi *et al*., 2021). This study is aimed at evaluating breast cancer-related knowledge and associated risk factors among men and women in Nigeria.

MATERIALS AND METHODS

Study Area

The study was conducted across four geopolitical zones of Nigeria, with selected states representing different regions of the country. The study locations included Osun State in the South-West, Sokoto State in the North-West, Nasarawa State in the North-Central region, and Anambra State in the South-East. These areas were selected to provide representation

from different geographical, cultural, and social settings within Nigeria.

Nigeria is a culturally diverse country with numerous ethnic groups and languages. The northern region is largely inhabited by Hausa-Fulani communities, while the Yoruba people are predominant in the South-West and the Igbo people are the major ethnic group in the South-East. The population in these regions is engaged in various economic activities. In the northern part of the country, common occupations include farming, livestock rearing, trading, and other forms of commerce. In the South-East, residents engage in farming, trading, formal employment, and craft-related activities. The South-West is characterized by a mixture of agriculture, commerce, livestock production, crafts, and other occupations.

Geographically, Nigeria is located in West Africa and lies approximately between latitudes 4°N and 14°N and longitudes 3°E and 15°E. The selected study areas therefore provide a broad geographical spread across the country and reflect differences in the social, cultural, and economic characteristics of the Nigerian population.

Study Design

A community-based descriptive cross-sectional study was carried out to assess awareness of breast cancer screening among individuals with no symptoms of breast cancer. The study focused on participants' understanding of breast cancer screening, the importance of early detection, and ways of reducing the risk of breast cancer. The study was conducted between September and December 2025 and included 156 participants aged 18 years and above, with informed consent obtained from all participants. The study was conducted in four states and five Local Government Areas (LGAs) in Nigeria. The study locations were Osogbo LGA in Osun State; Sokoto North and Wamakko LGAs in Sokoto State; Lafia LGA in Nasarawa State; and Nnewi South LGA in Anambra State. These areas were selected to include participants from different parts of the country.

Data were collected using a structured self-administered questionnaire. The questionnaire covered participants' awareness and knowledge of breast cancer screening, early detection, and practices related to reducing the risk of breast cancer. It was administered through Google Forms. The responses obtained were coded and analyzed using the Statistical Package for Social Sciences (SPSS), version 26. Descriptive statistics were used to summarize the data and present the study findings.

Participation in the study was voluntary, and informed consent was obtained from each participant before the questionnaire was completed. Participants were informed that the information they provided would be kept confidential and used only for the purpose of the study. Personal information that could identify individual participants was not included in the analysis or presentation of the findings.

Study Population

The study population included 156 individuals aged 18 years and older who provided consent, drawn from selected communities across various Local Government Areas in the specified states.

Sampling Technique

A simple random sampling technique was employed to select participants from the study community. Eligible men and women who met the predetermined inclusion criteria were identified during the study period.Each eligible community member was assigned a unique identification number to facilitate random selection.Participants were selected using a lottery method or computer-generated random numbers to ensure equal chances of selection.Selected individuals were approached, and the purpose and procedures of the study were clearly explained to them.Only participants who voluntarily provided informed consent were enrolled in the study.Individuals who declined participation or did not meet the eligibility criteria were excluded and replaced through the same randomization procedure.Sampling continued until the required sample size was attained during the data collection period.This approach was adopted to minimize selection bias and enhance the representative of the study population.

Method of Data Collection

Data were collected using a structured questionnaire developed by the researchers and administered electronically through Google Forms. The questionnaire was designed to obtain information relevant to the objectives of the study. It comprised two main sections, with the first section focusing on the socio-demographic characteristics of the respondents. The second section assessed the participants' knowledge of breast cancer. The questionnaire was prepared in English, while the questions were explained in the local language where necessary to promote clear understanding. Before participation, each respondent was provided with an informed consent form and the purpose of the study was explained. Only respondents who voluntarily gave consent were allowed to complete the questionnaire. Completed responses were automatically recorded through Google Forms and securely maintained for subsequent data analysis.

RESULTS AND DISCUSSION

The data collected were analyzed using frequency distribution tables showing the number of respondents and corresponding percentages. A total of One Hundred and Fifty-Six (156) male and female participants successfully completed and returned the questionnaires, and all responses were carefully reviewed and included in the analysis.

Questionnaire Administration based on States, Local Government Area (LGA), and Community.

Table 1 shows the distribution of the questionnaires across the selected states, Local Government Areas (LGAs), and communities in the study. A total of 32 (20.5%) questionnaires were distributed in each of Nasarawa and Anambra States, 62 (39.7%) in Sokoto State, and 30 (19.2%) in Osun State, giving a total of 156 (100%) questionnaires. LGA-level distribution indicates that Lafia LGA in Nasarawa State and Nnewi South LGA in Anambra State each received 32 (20.5%) questionnaires. In Sokoto State, Sokoto North and Wamakko LGAs each accounted for 31 (19.9%) questionnaires, while Osogbo LGA in Osun State received 30 (19.2%), representing the lowest . The community level, Millionaires Quarters in Nasarawa State and Amichi in Anambra State each received 32 (20.5%) questionnaires. This was followed by Gwiwa and Gidawa communities in Sokoto State, with 31 (19.9%) questionnaires each. Ogo Oluwa community in Osun State received 30 (19.2%), which was the lowest number of questionnaires distributed among the selected communities.

Table 1: Questionnaire Administration based on States, Local Government Area (LGA), and Communities

Variable	Frequency	Percentage (%)
States		
Nasarawa	32	20.5
Anambra	32	20.5
Sokoto	62	40
Osun	30	19
Total	156	100
Local Government Area (LGA)		
Lafia	32	20.5
Nnewi-south	32	20.5
Sokoto North	31	20
Wamakko	31	20
Osogbo	30	19
Total	156	100
Community		
Millionaire's Quarter	32	20.5
Amichi	32	20.5
Gwiwa Area	31	20
Gidawa Community	31	20
Ogo oluwa Area	30	19
Total	156	100

Field Research, 2025

Social-demographic Information of Respondents

Table 2 provides a comprehensive overview of the demographic characteristics of the study participants, including gender, age, education, occupation, and marital status. Of the 156 respondents, 124 (79%) were female and 32 (21%) were male. The majority of participants, 79 (51%), were aged 30–39 years, followed by 46 (29%) aged 20–29 years, 25 (16%) aged 40 years and above, and the smallest group, 6 (4%), were 20 years old. Regarding educational attainment, most participants had completed tertiary education 132 (85%), 23 (15%) had secondary education, and 1 (0.6%) had primary education. In terms of occupation, 73 (47%) were employed, 52 (33%) were self-employed, 28 (18%) were unemployed, and 3 (2%) were retirees. Concerning marital status, 92 (59%) were married, 61 (39%) were single, 3 (3%) were divorced, and 1 (1%) was widowed.

Table 2: Socio-demographic Information of Respondents

Variable	Frequency	Percentage (%)
Sex		
Male	32	21
Female	124	79
Total	156	100
Age		
Below 20	6	4
20 – 29	46	29
30 -39	79	51
Above 40	25	16
Total	156	100
Level of Education		
No Formal Education	0	0
Primary Education	1	0.6
Secondary Education	23	15
Tertiary Education	132	85
Total	156	100
Employment Status		
Employed	73	47
Self-Employed	52	33
Unemployed	28	18
Retiree	3	2
Total	156	100
Marital Status		
Single	61	39
Married	92	59
Divorced	2	1

Variable	Frequency	Percentage (%)
Widowed	1	1
Total	156	100

Field Survey, 2025

Knowledge of Breast Cancer

Table 3 presents the respondents' knowledge and perceptions of breast cancer across the selected study areas. The findings show that 151 (95%) of the respondents had previously heard about breast cancer. The main sources of information were healthcare professionals, reported by 63 (40.6%) respondents, followed by family and friends 43 (27%), television and radio 25 (16%), the internet and social media 15 (10%), newspapers and magazines 10 (6%), and other sources 9 (6%). More than half of the respondents, 81 (52%), reported knowing someone who had been diagnosed with breast cancer, while 147 (94%) indicated that they had no family history of the disease. When asked about the symptoms of breast cancer, 65 (42%) identified changes in breast shape or size and the presence of a lump in the breast or underarm. Nipple discharge was mentioned by 12 (7%), while 14 (9%) respondents were unable to identify any symptoms. Almost all the respondents, 154 (99%), regarded breast cancer as a serious health problem, and 132 (85%) were aware that screening or early detection tests are available. Despite this level of awareness, 142 (91%) had never undergone a clinical breast examination. Only 8 (5%) reported having the examination annually, while 6 (4%) underwent it every two years. In addition, 92 (59%) respondents identified the cost of screening as a major barrier to accessing breast cancer screening services.

Table 3: Knowledge of Breast Cancer

Variable	Frequency	Percentage (%)
Have you heard of Breast cancer?		
Yes	151	97
No	5	3
Total	156	100
If yes, where did you first hear about breast cancer?		
Television/Radio	25	16
Newspaper/ Magazines	10	6
Internet/ Social Media	15	10
Healthcare professionals	54	35
Family/Friends	43	27
Others	9	6
Do you know anyone who has been diagnosed with breast cancer?		
Yes	81	52
No	75	48
Total	156	100
Do you have a family History of breast cancer?		
Yes	9	6
No	147	94
Total	156	100
What are the common Symptoms of breast cancer that you are aware of?		
Change in breast shape or size	65	42
Lump in the breast or underarm	65	42
Nipple discharge	12	7
None	14	9
Other	0	0
Total	156	100
Do you believe breast Cancer is a serious health issue?		
Yes	154	99
No	2	1
Total	156	100
Do you know there are tests (screenings) to Check for these cancers early?		
Yes	132	85
No	24	15
Total	156	100

Variable	Frequency	Percentage (%)
How often do you undergo clinical breast examinations?		
Annually	8	5
Every 2 years	6	4
Every 5 year	0	0
Never	142	91
Total	156	100
What do you think stops people from going for a screening?		
Cost	92	59
Fear of result	20	13
Lack of information	28	18
Distance to hospital	10	6
Don't believe in it	6	4
Shame or Embarrassment	0	0

Field Survey, 2025

Table 4 illustrates respondents' knowledge regarding breast cancer risk factors. A large proportion, 108 (69%), were unaware of the risk factors associated with the disease. Most participants, 95 (61%), indicated that not everyone is at risk of developing breast cancer. Among those who identified risk factors, 47 (30%) cited a family history of breast cancer, 35 (22%) mentioned gender, 30 (19%) noted age, 10 (6%) referred to hormonal factors, and 5 (3%) each identified lifestyle and obesity as contributing factors.

Table 4: Risk Factors of Breast Cancer

Variable	Frequency	Percentage (%)
Are you aware of the risk factors associated with Breast cancer?		
Yes	48	31
No	108	69
Total	156	100
Do you think that anyone is at risk for breast cancer?		
Yes	61	39
Others	95	61
Total	156	100
What do you think are the Risk factors for breast cancer?		
Family history of breast cancer	47	30
Age	30	19
Gender	35	22
Lack of physical activity	24	15
Hormonal factors (Examples include early menstruation, late menopause)	10	6
Lifestyle (F actors (Examples include diet, alcohol consumption, consumption)	5	3
Obesity	5	3
Others	0	0

Community Perception about Breast Cancer Screening

Table 5 presents community perceptions regarding breast cancer screening, highlighting adherence to recommended guidelines. Most participants, 152 (97%), considered breast cancer screening very important, while 2 (1.4%) were unsure, and 1 (1%) each viewed it as less important or not important. A significant proportion, 134 (86%), believed that screening is only necessary for individuals showing symptoms. Additionally, 112 (72%) of respondents had discussed breast cancer with a healthcare provider. Awareness of screening methods varied: 65 (42%) had never heard of any method, while others mentioned breast self-examination 38 (24%), ultrasound 29 (19%), and mammography 14 (9%). Regarding barriers to screening, 64 (41%) cited fear and anxiety, 49 (32%) mentioned lack of knowledge, 24 (15%) were unaware of self-examination, 10 (6%) felt ashamed, and 9 (6%) identified cultural beliefs as a barrier.

Table 5: Community Perception about Breast Cancer Screening

Variable	Frequency	Percentage (%)
How important do you think Breast cancer screening is?		
Very Important	152	97
Less Important	1	1
Not important	1	1
No idea	2	1
Total	156	100

Variable	Frequency	Percentage (%)
Do you think breast cancer screening is only necessary for people with symptoms?		
Yes	134	86
No	22	14
Total	156	100
Have you ever discussed breast cancer screening with a healthcare provider?		
Yes	112	72
No	44	28
Total	156	100
What types of breasts Cancer screening has you heard of?		
Breast self-Examination	38	24
Mammogram (breast Scan for women)	14	9
Ultrasound	29	19
I've not heard of any	65	42
Perception of Community members on breast cancer screening		
Fear and anxiety	64	41
I feel Ashamed	10	6
Not aware of Self-examination	24	15
Inadequate knowledge	49	32
Cultural beliefs	9	6

Willingness to undergo Cancer Screening

Willingness of Participants to Undergo Cancer Screening (Table 6): Among the 156 respondents, 131 (84%) expressed willingness to participate in breast cancer screening or perform self-examinations. The main motivators for screening included encouragement from healthcare providers 66 (42%) and the presence of symptoms 46 (29%). The primary barrier reported was fear of test results 58 (37%), followed by lack of awareness 50 (32%), cost 30 (19%), and other reasons 1 (1%). Factors influencing participants' willingness to undergo screening included knowledge and awareness 88 (56%), access to screening services 40 (26%), cost of services 18 (12%), and perceived benefits and barriers 10 (6%).

Table 6: Willingness to Undergo Cancer Screening

Variable	Frequency	Percentage (%)
Are you willing to self-examine or go for breast cancer screening?		
Yes	131	84
No	25	16
Total	156	100
What will motivate you to undergo breast screening?		
Family history	10	6.4
Health care provider	66	42.3
Symptoms	46	29
Others	34	22
Total	156	100
What barriers might prevent you are undergoing breast cancer screening?		
Lack of awareness	51	33
Fear of Results	58	37
Cost	30	19
Others	17	11
Factors Influencing willingness to breast cancer screening		
Awareness and Knowledge	88	56
Accessibility to screening Services	40	26
Cost	18	12
Perceived Benefits and Barriers	10	6

Preventive Measures of Breast Cancer

Table 7 presents respondents' knowledge of breast cancer prevention. Among the participants, 132 (85%) recognized early detection and screening as preventive measures, 16 (10%) were unsure, and 8 (5%) mentioned annual screening. Regarding lifestyle practices, the majority highlighted healthy eating as the most important preventive measure, followed by regular exercise 52 (33%), herbal cleansing 7 (4%), reducing smoking or alcohol consumption 5 (3%), and 4 (3%) were unsure.

Table 7: Preventive Measures of Breast Cancer

Variable	Frequency	Percentage (%)
Preventive measures of breast cancer		
Early screening and detection	132	85
I don't know	16	10
Annual Screening	8	5
Total	156	100
Apart from screening, what Other things can help prevent breast cancer?		
Eating healthy food	88	56
Regular exercise	52	33
Smoking or alcohol reduction	5	3
Herbal cleansing	7	4
I don't know	4	3

Discussion

The results of this study indicate a high level of breast cancer awareness among respondents in the study area, with 97% of respondents having heard of the disease. This high awareness is close to the findings from similar studies in other parts of Nigeria and sub-Saharan Africa. Also, this study is close to the findings of Agbo *et al*. (2019), reported a comparable awareness level of 94.8% among women in Northern Nigeria, suggesting a wider knowledge of breast cancer across different regions of the country. Likewise, this study is also close to the findings of Ezebuiro *et al*. (2024) research conducted in South-eastern Nigeria with a broader literature, which indicates high levels of awareness but varying degrees of detailed knowledge about breast cancer across different populations in Nigeria and sub-Saharan Africa.

The primary sources of information identified in this study were healthcare professionals (35%), followed by family and friends (27%), television/radio (16%), and the Internet, and the least is social media (10%). This finding is not in line with Ezebuiro *et al*. (2024) were the major source of information revealed was information and social media, and Akinola *et al*. (2021), identified peer groups as their source of information., while Opoku *et al*. (2012) and Gwarzo *et al*. (2009) revealed mass media as the main source of information. The significant role of healthcare professionals as a source of information underscores the importance of medical practitioners in health education. Also, this study aligns with the findings of Akinola *et al*. (2018), emphasized the critical role of healthcare providers in improving health literacy and awareness. Additionally, 52% of respondents knew someone that have ever diagnosed with breast cancer. The study identified that 94% of the respondents have no family history of breast cancer. Recognized family history as a significant risk factor for breast cancer, which is in agreement with Ezebuiro *et al*. (2024), identified family history as the major risk factor for breast cancer.. This is relatively low compared to other studies in different regions. For instance, a study conducted in Lagos, Nigeria, found that about 48% of the participants acknowledged family history as a risk factor. This disparity may indicate regional differences in health education or awareness programs.

Regarding symptoms, 42% of the respondents were aware that a change in breast shape and size, and lumps in the breast are common symptoms. These findings are in-agreement with Mohamadou *et al*. (2021), a study conducted in the Littoral region of Cameroun, where lumps in the breast are a key sign of breast cancer. This study is in agreement with Vaduihe *et al*. (2018), research conducted in Parakou (Benin Republic), which indicates lumps are the identifying factor of breast cancer. Also, in line with a study in Ghana, where 35% of the women could identify lumps as a primary symptom of breast cancer (Opoku *et al*., 2022).

Most respondents (85%) agreed that breast cancer tests and screening methods are available. However, only 9% of women reported performing breast self-examination annually or every two years. These findings suggest that current breast cancer education may focus predominantly on signs and symptoms rather than risk factors and screening methods. Therefore, greater emphasis should be placed on breast cancer risk factors and available screening methods, alongside the development of comprehensive educational materials on breast health (Atefeh *et al*., 2021). Similarly, a review of 30 studies involving Eastern European immigrant women reported low utilization of breast cancer screening programmes, largely due to inadequate awareness of available screening services.

The findings revealed that 69% of respondents had no knowledge of the risk factors for breast cancer, while 61% indicated that not everyone is at risk of developing the disease. Also, only 30% of respondents identified family history as a significant risk factor for breast cancer. This finding differs from the results reported by Ezebuiro *et al*. (2024), in which family history was identified as a significant risk factor by 16.94% of participants. However, the finding is relatively low compared with reports from other regions. Similarly, Lei *et al*. (2021), in a study conducted at Tianjin Medical University Cancer Institute and Hospital, China, identified family history as an important risk factor for breast cancer. The observed disparity may reflect regional differences in health education, access to information, or breast cancer awareness programmes. Furthermore, the finding is inconsistent with Andrew *et al*. (2015), who reported older age as a major risk factor for breast cancer.

The present study indicates that 97% of respondents considered breast cancer screening very important, which is consistent with the findings of Luana *et al*. (2023). However, several misconceptions and myths regarding breast cancer were identified, including the beliefs that breast cancer is contagious or caused by stress. The study further revealed low utilization of breast cancer screening services among women

in Nigeria, with 41% of respondents reporting fear and anxiety as barriers to screening. This finding is consistent with Kuljinder *et al.* (2023), whose study in India identified fear as a significant barrier to breast cancer screening among women. Regarding awareness of screening methods, 24% of respondents had heard of breast self-examination, 19% had heard of ultrasound, 9% had heard of mammography, while 42% had not heard of any of these screening methods. These findings contrast with Gul *et al*. (2020) and Adeel *et al.* (2024), who reported mammography as an important method for breast cancer screening. Despite these gaps in knowledge, 84% of respondents expressed willingness to undergo breast cancer screening, with healthcare workers identified as an important source of motivation. Awareness and knowledge were reported as the major factors influencing willingness to undergo breast cancer screening, accounting for 56% of responses.

The results also revealed that 85% of respondents were aware that early detection of breast cancer significantly improves prognosis and chances of survival. This percentage is higher than the report by Gwarzo *et al*. (2009) among undergraduate students in Ahmadu Bello University, Zaria, where only 37.3% knew about the positive impact of early detection. This finding contrasts with the report by Adeel *et al*. (2014), whose study in Pakistan found that only 57% of respondents were aware that early detection contributes significantly to breast cancer prevention. In contrast, the present study found that 85% of respondents identified early screening and detection as the most effective strategies for preventing breast cancer.

CONCLUSION

While awareness of breast cancer is high, there is a significant gap in regular screening practices and detailed knowledge. Interventions should focus on increasing practical knowledge and encouraging preventive practices through targeted awareness programs and improved health care access. Addressing cultural barriers, enhancing education on breast cancer prevention, and improving healthcare infrastructure are critical for reducing breast cancer morbidity and mortality in Nigeria.

REFERENCES

Adeel, I., Asma, G.M., Ali, H., Hafsa, H., Fatima N. Maha, A. (2024). Assessing Awareness, Attitude, and Practices of Breast Cancer Screening and Prevention among the General Public and Physicians in Pakistan: A Nation with the Highest Breast Cancer Incidence in Asia. *International Journal of Breast Cancer*, 212-388.

Agbo, P. S., Khalid, A., Oboirien, M. (2019). Breast cancer awareness and screening practices among women in Northern Nigeria. *Journal of Cancer Research and Therapeutics*, 15(6):1235-1240.

Akinola, A., Olumide, A.., Adeniyi, A. (2018). Role of healthcare providers in improving breast cancer awareness and screening: A cross-sectional study in Lagos, Nigeria. *Nigerian Medical Journal*, 59(4):195-202.

Andrew, M., James, A.L.B., Carmel, M., Ray, M., Michael, J.K. (2015). Effects of Age on the Detection and Management of Breast Cancer. *Cancers*, (2):908–929.

Bray, F., McCarron, P., Parkin, D. M. (2004). The changing global patterns of female breast cancer incidence and mortality. *Breast Cancer Research*, 6(6):229–239.

Conner, S. J., Borges, H. B., Guarin, J. R., Gerton, T. J., Yui, A., Salhany, K. J., Jr. *et al*. (2024). Obesity induces temporally regulated alterations in the extracellular matrix that drive Breast tumor invasion and metastasis. *Cancer Research*, *84*(17):2761–2775.

Da Costa Vieira, R. A., Biller, G., Uemura, G., Ruiz, C. A., Curado, M. P. (2017). Breast cancer screening in developing countries. *Clinics*, 72(4):244–253.

Ezebuiro, E. I., Ezirim, E. O., Akwuruoha, E. M., Omole, O. R., Airaodion, A. I. *et al*, (2024). Prevalence, Awareness, and Attitudes towards Breast Cancer among Women in Southeast Nigeria. *Journal of Obstetrics, Gynecology and Reproductive Sciences*, 8(5):25-78.

Feng, Y., Spezia, M., Huang, S. (2018). Breast cancer development and progression: risk factors, cancer stem cells, signaling pathways, genomics, and molecular pathogenesis. *Genes & Diseases*, 5(2):77–106.

Ferlay, J., Ervik, M., Lam, F., Colombet, M., Mery, L., Piñeros, M. *et al*. (2020). Global Cancer Observatory: Cancer Today. *International Agency for Research on Cancer; Lyon, France*: 2020.

Francies, F. Z., Hull, R., Khanyile, R. (2020). Dlamini Z. Breast cancer in low-middle income countries: abnormality in splicing and lack of targeted treatment options. *American Journal of Cancer Research*, 10(5):1568–1591

Gilani, G.M., Kamal, S. (2004). Risk factors for breast cancer in Pakistani women aged less than 45 years. *Annals of Human Biology*, 31(4):398–407

Gul, P., Mansoor, M., Gul, P., Arshad, Z. (2020). Breast cancer knowledge and perception among healthcare professionals and senior medical students at Bolan Medical Complex Hospital, Quetta, Pakistan. JPMA. *The Journal of the Pakistan Medical Association*, 70(12):2432–2436.

Gwarzo, U. M., Sabitu, K., Idris, S.H. (2009). Knowledge and practice of breast-self-examination among female undergraduate students of Ahmadu Bello University, Zaria, northwestern Nigeria. *Annals of African Medicine*, 8(1):55–58.

Kuljinder, K., Rachana, J., Subh, N., Tanushka, K., Gunteshwar, S.B., Pardeep, G. *et al*. (2023). Identifying barriers to early diagnosis of breast cancer and perception of women in the Malwa region of Punjab, India2023. *Global Health Journal*, 7(1):34-42.

Lei, L., Xiaomeng, H., Zian, S., Xiangcheng, Z., Sheng, Z. , Jin, Z. (2021). Correlation between family history and characteristics of breast cancer. *Scientific report*, 11:6360.

Luana, C., Giorgio, D.N., Roberto, L., Matilde, M., Alessia, L., Elsa, V. *et al*. (2023). Breast Cancer Prevention: The Key Role of Population Screening, Breast Self-Examination (BSE) and Technological Tools. Survey of Italian Women. *Journal of Cancer Educucation*, 38(5):1728–1742

Mohamadou, H., Richard, T.S., Grace, N.K., Erika, M.B., Lydiane, C.C.N., Armel, H.N.K. (2021). Breast Cancer Awareness and screening practices amongst health personnel

and the general population of the littoral region of Cameroon. *Heliyon*, 7(7):07534.

Moridi, A., Mahmoodi, S., Rahmati, N., Fathi, M., Naeiji, Z. (2021). Comparison of awareness level about breast cancer risk factors, presentations, and screening rules and tools: A cross-sectional study on general female population. *Journal of Obstetrics, Gynecology and Cancer Research, 6*(4):188–194.

Opoku, S. Y., Benwell, M., Yarney, J. (2022). Knowledge, attitudes, beliefs, behavior, and breast cancer screening practices in Ghana. *Pan African Medical Journal*, 10(2):9-15.

Opoku, S.Y., Martu, B., Joel, Y. (2012). Knowledge, Attitudes and Beliefs, Behaviours and Breast Cancer Screening Practices in Ghana, West Africa. *Pan African Medical Journal*, 11(28):528-548.

Sung, H., Ferlay, J., Siegel, R. L., Laversanne, M., Soerjomataram, I., Jemal, A., Bray, F. (2021). Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *Cancer Journal for Clinicians*, *71*(3):209–249.